

Friday, 1/25/2008 10:56:22 AM  
Kim Johnston

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : 407 HIGH AFT X-TUBE ASSEMBLY  
 Job Number : 37008  
 Estimate Number : 10528  
 P.O. Number :  
 This Issue : 1/25/2008 S.O. No. :  
 Prsht Rev. : NC  
 First Issue : / / Type : LANDING GEAR  
 Previous Run : 36386  
 Written By :  
 Checked & Approved By :  
 Comment : Est Rev: C 05.09.02 Add holes for compatibility with Bell  
 Skidtubes KJ/JLM  
 Est Rev: D Added Magnobond, Rubber Cushion & Clamps  
 07-02-19 JLM  
 Part Number : D407667205  
 Drawing Number : D407-667-245 REV D  
 Project Number : N/A  
 Drawing Revision :  
 Material :  
 Due Date : 3/10/2008 Qty: 1 Um: Each  
 \*\*\*\*\*CHANGE TO CHG 005 - IF USING D2894-1 B35578 OR GREATER\*\*\*\*\*

## Additional Product

Job Number:



Seq. #: Machine Or Operation: Description:

1.0

DC

DOCUMENT CONTROL



KS 08.02.28

Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D407-667-205CHG004

RF / 8 08/03/12

2.0

D6011115

Crosstube Material



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6011-115 Crosstube 34689

Check OD = 2.750"; ID = 1.450"

120 08/02/01

3.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand &amp; install plugs DT8531 on both ends as per Fòlio FA248

2-Turn first side as per Folio FA248

3-Deburr &amp; Inspect for surface damage. Repair damage within limits as per Dwg D407-667-245.

120 08/02/01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Job Number:



Seq. #:

Machine Or Operation:

Description :

4.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

29 08/02/10

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA248

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D407-667-245

3-Remove sand and plugs

4-Scribe part # and batch # using vibrating stylus as per Dwg D407-667-245  
Inside of Cuff (Do not engrave on outside of tube)

29 08/02/10

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

29 08/02/10

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

J.F. 08/02/11 (1)

8.0

LANDING GEAR 1

LANDING GEAR RESOURCE #1



Comment: LANDING GEAR RESOURCE 1

AWM 8-2-13

1-Polish entire outside surface of crosstube

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

2 08/02/13 (1)

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1  
Ensure no sand is in the tube before alodine.

AWM 8-2-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Job Number: 37008

Part Number: D407667205

Job Number:



Seq. #:

Machine Or Operation:

Description :

11.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Bend tube as per Dwg D407-667-245 using CNC bender program 407 Aft and Folio FT

EL 8-2-13

12.0

QC6  
QC15

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

6 08/02/13 (TL)

13.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube using drill Jig DT8583 & DT8584 as per Dwg D407-667-245. Drill all (3) top holes.

2-Drill and Ream all holes in tube to finish size using drill Jig DT8583 & DT8584 as per Dwg D407-667-245. Check dimensions between holes on all four sides.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8583 & DT8584 as per Dwg D407-667-245. Drill only the top (2) holes.

5-Drill & ream the top (2) holes to finish size using drill Jig DT8583 & DT8584 as per Dwg D407-667-245

6-Drill Aft rivet holes using drill Jig DT8789 as per Dwg D407-667-245. Note: Aft side has 3x top holes.

7-Drill Fwd rivet holes using drill Jig DT8789 as per Dwg D407-667-245. Drill only the top (3) holes.

8-C'sink holes as per Dwg D407-667-245. Allow rivet to sit below surface to compensate for paint.

9-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D407-667-245

EL  
8-2-14

AWM 8-2-21

14.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

AWM 8-2-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Part Number: D407667205

Job Number:



Seq. #:

Machine Or Operation:

Description :

15.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

17.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES  
Liquid Penetrant Inspection as per QSI 038Or  
Issue P/O: 5781 LPI as per ASTM 1417  
Level 2 Attach copy of NDT results to work order

U03/02/25(1)

18.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1  
Inspect for transit damage  
Ensure copy of NDT results attached to work order.

Pc 4/22 (1)

19.0

QC6

DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D407-667-245

M 08 02 26

20.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

7/25 08-07-23

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

M 08 02 26 (1)

21.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint  
Wrap in plastic bag to protect from scratches

08-02-27 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Job Number: 37008

Part Number: D407667205

Job Number:



Seq. #:

Machine Or Operation:

Description :

22.0

D2856400

Abrasion Strip



Comment: Qty.: 1.3524 f(s)/Unit Total : 1.3524 f(s)

Pick:

Qty Part number Description Batch

2 D2856-400(Cut to 7.73") Abrasion Strip 35900

23.0

D2873043

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-043 Nut Plate 36064

BT 08-02-23

24.0

D2873045

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-045 Nut Plate 34077

BT 08-02-23

25.0

D28941

2.750 Support



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D2894-1 Support 21475

MM 08 02 27

26.0

D31901

Chafing Shield



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D3190-1 Chafing Shield 33427

MM 08 02 27

27.0

D3595

Rubber Cushion (per sq ft)



Comment: Qty.: 0.0246 sf(s)/Unit Total : 0.0246 sf(s)

Rubber Cushion

2X .750" X 4.30"

Batch: 35126

D3595063570 2008/3/13

tool - 570's

MM 08 02 27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Job Number: 37008

Part Number: D407667205

Job Number:



Seq. #:

Machine Or Operation:

Description :

28.0

MS20601AD4W8

RIVET



Comment: Qty.: 14.0000 Each(s)/Unit Total : 14.0000 Each(s)

Pick:

Qty Part number Description Batch

14 MS20601AD4W8 Rivet 107 008

27 08-02-23

29.0

MS2192022

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-22 Clamp 106 627

27 08-02-23

30.0

MS2192025

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Clamp(per MIL-DTL-8783C)

Batch: 11 106398

27 08-02-23

31.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8674. Install chafing shield as per Dwg D407-667-245. Note: (3) top holes should be facing up.

2-Install support with magnobond and install clamps as per Dwg D407-667-245. Torque clamps to 80-100 in lb

A/R Magnobond

Batch: 105379 exp: 05/2008 27 08-02-23  
Time: 12:30pm

3-Install nut plates as per Dwg D407-667-245. Touch-up rivet heads with Imron paint.

25 08-02-23

32.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

20803-06 ①

33.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Drawing Name: 407 HIGH AFT X-TUBE ASSEMBLY

Job Number: 37008

Part Number: D407667205

Job Number:



Seq. #:

Machine Or Operation:

Description:

34.0

AN534A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Bolt

Batch: M104678

35.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Nut

Batch: M106277

36.0

AN510A

Bolt



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)

Pick:Packing Kit

Qty Part number

Description Batch

10 AN5-10A

Bolt M106519

37.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:Packing Kit

Qty Part number

Description Batch

4 AN5-32A

Bolt M105408

38.0

AN960JD516

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total: 18.0000 Each(s)

Pick:Packing Kit

Qty Part number

Description Batch

18 AN960JD516

Washer M106654

39.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

40.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D407-667-205

Location:

PPP Rev:

D 08/3/12 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☐ No ☒ DQA: ☒ Date: 08/03/14

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Drawing Name: 407 HIGH AFT X-TUBE ASSEMBLY

Job Number: 37008

Part Number: D407667205

Job Number:



Seq. #:

Machine Or Operation:

Description :

41.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

②  
D 28103/14

Job Completion



mi 2008/3/13

①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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NOTE: Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	37008
<b>Description:</b> Crosstube Assembly		<b>Part Number:</b>	D407-667-245
<b>Inspection Dwg:</b> D407-667-245 <b>Rev:</b> D		<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

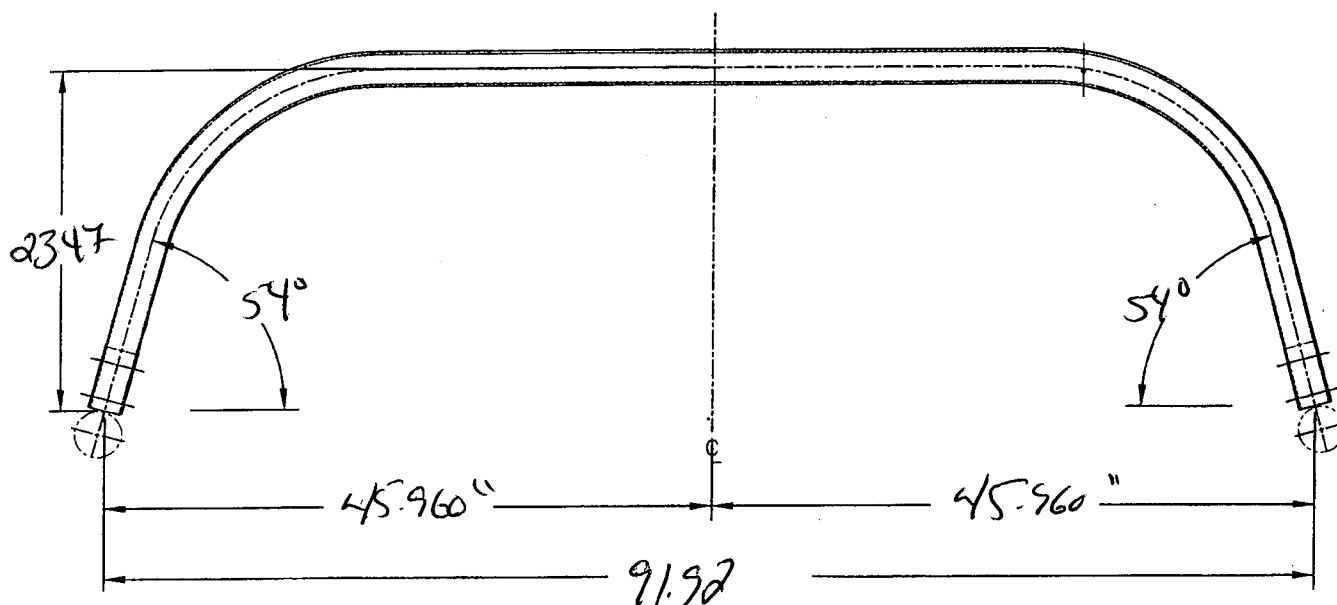
Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.490	+0.005/-0.000	2.490			
	1.832	+0.005/-0.000	1.835			
	1.838	+0.005/-0.000	1.843			
	1.892	+0.005/-0.000	1.897			
	2.052	+0.005/-0.000	2.056			
	2.206	+0.005/-0.000	2.207			
	2.521	+0.005/-0.000	2.523			
	2.633	+0.005/-0.000	2.633			
	4.10	+/-0.030	4.10			
	4.978	+/-0.030	4.975			
	2.040	+0.000/-0.010	2.032			
	0.125	+/-0.010	.13			
	R0.063	+/-0.010	.06			
	R0.500	+/-0.010	.5			
SIDE B	2.490	+0.005/-0.000	2.490			
	1.832	+0.005/-0.000	1.833			
	1.838	+0.005/-0.000	1.843			
	1.892	+0.005/-0.000	1.897			
	2.052	+0.005/-0.000	2.055			
	2.206	+0.005/-0.000	1.204			
	2.521	+0.005/-0.000	2.523			
	2.633	+0.005/-0.000	2.633			
	4.10	+/-0.030	4.10			
	4.978	+/-0.030	4.978			
	2.040	+0.000/-0.010	2.033			
	0.125	+/-0.010	.13			
	R0.063	+/-0.010	.06			
	R0.500	+/-0.010	.5			
	112.91	+/-0.020	112.907			

<b>Measured by:</b>	PD	<b>Audited by:</b>	J.F.	<b>Prototype Approval:</b>	N/A
<b>Date:</b>	08/02/10	<b>Date:</b>	08/02/11	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	04.04.21	New Issue (P/O D407-667-205)	KJ/RF	
B	06.03.09	Dwg Rev updated	KJ/JLM	
C	06.03.30	Tolerance revised for 4.978 dimension	KJ/JLM	
D	07.02.19	Dwg Rev updated	KJ/JLM	

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 37008
<b>Description:</b> Crosstube High Aft (407)	<b>Part Number:</b> D407-667-205
<b>Inspection Dwg:</b> D407-667-245 <b>Rev:</b> D	<b>Page 1 of 1</b>

Required Dimension	Min	Max
Height	23.46	23.58
1/2 Span	45.86	45.98
Angle	54	56
Total Span	91.72	91.96



Comments

QC15 Inspection	<i>[Signature]</i>
Date	08/02/13

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM <i>[Signature]</i>	<i>[Signature]</i>

**DART**

DESIGN PH	DRAWN BY PH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED H	APPROVED H	DRAWING NO. D407-667-245	REV. D SHEET 1 OF 3
DATE 07.02.07		TITLE CROSSTUBE ASS'Y (407 HIGH AFT)	SCALE NTS
A	02.05.13	NEW ISSUE	
B	03.05.21	ADD CHAFING SHIELD	
C	05.07.26	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	
D	07.02.07	ADD VIEW FOR OEM SKID HOLES, ROTATE ORIENTATION OF CLAMPS SECTION F-F, REMOVE -851 ABRASION STRIP, ADD MAGNOBOND 6398, ADD CUSHION	

RELEASED

07.02.04

Qty	Part Number	Description
X	D407-667-245	CROSSTUBE ASSEMBLY (407 HIGH AFT)
1	D6011-115	CROSSTUBE
2	D2856-400-773	ABRASION STRIP
2	D2873-043	NUT PLATE
2	D2873-045	NUT PLATE
1	D2894-1	SUPPORT
2	D3190-1	CHAFING SHIELD
2	D3595-075-430	RUBBER CUSHION
14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
4	MS21920-22	CLAMP
2	MS21920-25	CLAMP (OR MS21920-24)

**GENERAL NOTES:**

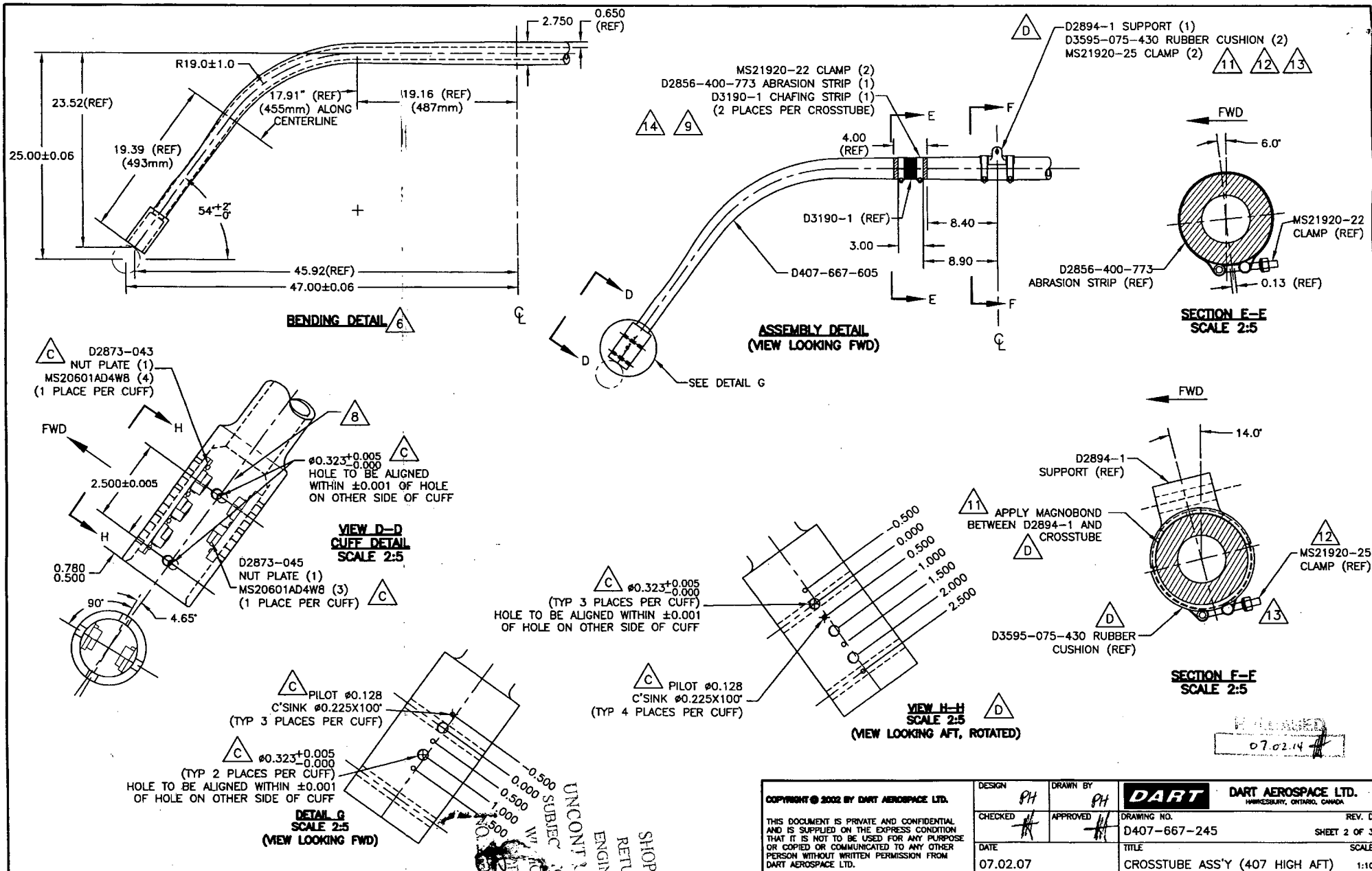
- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6011-115  
FINISHED LENGTH = 112.91±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 6 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-400-773 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) INSTALL D2894-1 CENTER SUPPORT USING A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 12) INSTALL MS21920-25 CLAMPS WITH D3595-075-430 RUBBER CUSHIONS TO SECURE D2894-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE CROSSTUBE SUPPORT.  
NOTE: MS21920-24 CLAMPS CAN BE USED TO ACCOMMODATE VARYING DIAMETERS. ENSURE THERE IS A MINIMUM OF 1.5 THREADS IN SAFETY ON THE NUTS.
- 13) TORQUE CLAMPS 80 TO 100 IN-LB.
- 14) INSTALL D3190-1 CHAFING SHIELDS SO THAT OVERLAP IS ON BOTTOM SIDE OF CROSSTUBE OPPOSITE D2894-1 SUPPORT.

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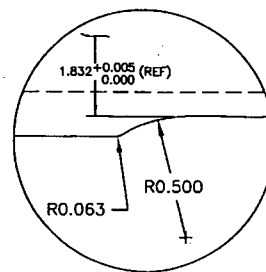
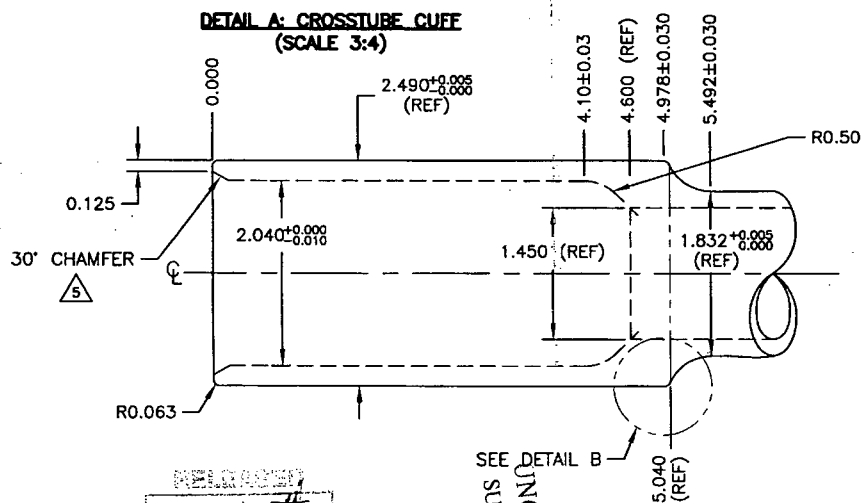
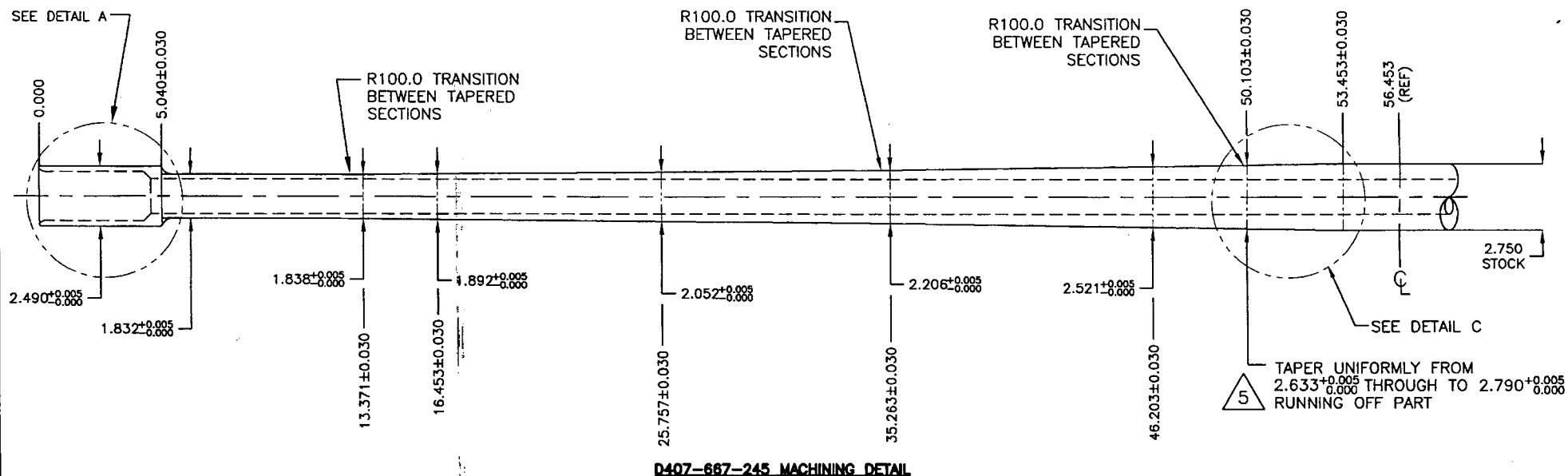
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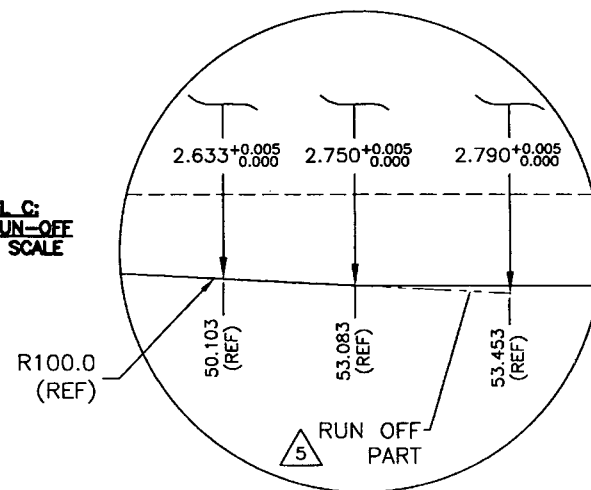


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DATE		07.02.07		DRAWING NO.		D407-667-245	SHEET 2 OF 3
TITLE		CROSSTUBE ASS'Y (407 HIGH AFT)		SCALE		1:10	

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**DETAIL C: TAPER RUN-OFF**  
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CHECKED	PH	APPROVED	PH	DRAWING NO.	D407-667-245
DATE	07.02.07	TITLE	CROSSTUBE ASS'Y (407 HIGH AFT)	SCALE	1:4
				REV. D	SHEET 3 OF 3





## LIQUID PENETRANT TEST REPORT

P - 1253 1

PAGE 1 OF 1

CLIENT	DART AEROSPACE	DATE	FEB 22 2008	TIME	AM <input type="checkbox"/> PM <input type="checkbox"/>
ATTENTION	LINDA LACELLE	ACUREN JOB NO.	188 08 1253		
ADDRESS	1270 ABERDEEN ST	PO/NO.	5781		
	HAWKESBURY, ONT.	WORK LOCATION	HAWKESBURY		
		ACCEPTANCE STD.	ASTM 1417/QSI-038	REV./DATE	2005
PROJECT	212 LOW NARROW FWD, 407 HIGH AFT, 212/205 HIGH FED X TUBES				
ITEM(S) EXAMINED	JOB #S 212-36641, 36643, 36772, 407-37008, 212/205-37271, 37274.				

JOB DESCRIPTION	PROCEDURE NO. LT-0002	REV./DATE	TECHNIQUE NO. LT-TECH2	REV./DATE
PART NO. D212664107/D407667205/D212664101	MATERIAL ALODINED ALUM.		THICKNESS	
SCOPE WET FLOURESCENT LIQUID PENETRANT INSPECTION CARRIED OUT ON 100% EXTERNAL SURFACE				

## TEST DETAILS

METHOD	<input checked="" type="checkbox"/> FLUORESCENT	<input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH	<input type="checkbox"/> SOLVENT REMOVABLE	<input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND	MAGNAFLUX		BLACK LGHT8171	<input type="checkbox"/> OUTPUT > 1000 $\mu$ W/CM <sup>2</sup>	<input type="checkbox"/> AMBIENT < 2 fc
PENETRANT ZL67	MINIMUM DWELL TIME	45 MIN.	LIGHTING EQUIP.	<input type="checkbox"/> FLASHLIGHT	<input type="checkbox"/> TROUBLELIGHT
PENETRANT REMOVER H2O	MINIMUM DRY TIME	>10 MIN.	OTHER	CAL SEP 18 07	
DEVELOPER SKDS2	MINIMUM DWELL TIME	10 MIN.	LIGHT METER S/N	CAL DUE DATE	
DEVELOPER TYPE	<input checked="" type="checkbox"/> NON AQUEOUS	<input type="checkbox"/> AQUEOUS	<input type="checkbox"/> DRY		

## TEST SURFACE

SURFACE CONDITION	<input type="checkbox"/> AS GROUND	<input checked="" type="checkbox"/> AS WELDED	<input type="checkbox"/> MACHINED	<input type="checkbox"/> SHOT BLASTED	<input checked="" type="checkbox"/> CLEAN BARE METAL
SURFACE TEMPERATURE	<input type="checkbox"/> < -4°C/20°F	<input type="checkbox"/> -4°C/20°F TO 10°C/50°F	<input type="checkbox"/> 10°C/50°F TO 52°C/125°F	<input type="checkbox"/> > 52°C/125°F	

RESULTS- (☐ METRIC ☒ IMPERIAL)

## FLUORESCENT LIQUID PENETRANT INSPECTION

CARRIED OUT ON 100% EXTERNAL

SURFACE ON:

212 LOW NARROW FWD X TUBE JOB#S:

36641, 36643, 36772.

404 HIGH AFT X TUBE JOB# 37008

212/205 HIGH FED X TUBE JOB#S: 37271, 37274

RESULTS: NO INDICATION OF DEFECTS.

ITEMS ACCEPTABLE TO STANDARD

## Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner operator and the owner operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

## Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

## SIGNATURES

CLIENT REPRESENTATIVE		DTR # E21515	
TECHNICIAN (SIGNATURE):		REPORT REVIEWED BY:	
NAME (PRINT):	JASON HEWETT	NAME INITIALS	
	1 <sup>ST</sup> TECHNICIAN	2 <sup>ND</sup> TECHNICIAN	
CGSB LEVEL	2	CGSB LEVEL	SNT LEVEL
CGSB REG. No	6156	CGSB REG. No	

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